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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/631,990      | 07/31/2003  | Thierry E. Klein     | 5-8-4               | 2186             |

7590 01/17/2007  
Docket Administrator (Room 3J-219)  
Lucent Technologies Inc.  
101 Crawfords Corner Road  
Holmdel, NJ 07733-3030

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| EXAMINER |
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NGUYEN, KHAI MINH

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2617

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 01/17/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                               |                              |  |
|------------------------------|-------------------------------|------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/631,990 | Applicant(s)<br>KLEIN ET AL. |  |
|                              | Examiner<br>Khai M. Nguyen    | Art Unit<br>2617             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 12-20, 22, 25-31 and 33 is/are rejected.
- 7) ☒ Claim(s) 8, 10, 11, 21, 23, 24, 32, 34 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/9/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 9, 12-20, 22, 25-31, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over A. Jalali, R. Padovani, R. Pankaj (IEEE, 2000 (Data throughput of CDMA-HDR a High Efficiency-High Data rate personal communication Wireless System)) in view of Kaniyar et al. (U.S.Pub-20030084175).

Regarding claim 1, Jalali teaches a method for scheduling data transmissions in a wireless communication system between a base station (AP (access point) and a plurality of mobile terminals (ATs (access terminals))(abstract), said method comprising:

calculating the value of a scheduling metric for each mobile terminal in said plurality of mobile terminals (abstract, page 1856, section 3, forward link schedulers); and

scheduling transmissions between said base station (AP (access point) and said mobile terminals (ATs (access terminals)) as a function of said calculated values of said scheduling metric (abstract, page 1856, section 3, forward link schedulers).

Jalali fails to specifically disclose wherein said scheduling metric is representative of a transmission control protocol (TCP) throughput for each of said

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mobile terminals. However, Kaniyar teaches wherein said scheduling metric is representative of a transmission control protocol (TCP) throughput for each of said mobile terminals (fig.2, clients 210, paragraph 0036-0038). Therefore, it would have been obvious to one having ordinary skill in the art at the time invention was made to apply the teaching of Kaniyar to Jalali to provide a method for handling action scheduling timers used for management of network communications connections.

Regarding claim 2, Kaniyar and Jalali further teach the method of claim 1 wherein the step of scheduling comprises: comparing the calculated values of said scheduling metric for each mobile terminal (see Jalali, page 1856, section 3, forward link schedulers) and scheduling that mobile terminal having the highest value of said scheduling metric (see Jalali, abstract (the rate transmitted to each AT is variable and depends on each AT's measured SINR), page 1854, section 1, introduction).

Regarding claim 3, Kaniyar and Jalali further teach the method of claim 1 wherein said scheduling metric is calculated for each mobile terminal using only information available at a Medium Access Control layer in said wireless communication network (see Kaniyar, fig.2, clients 210, paragraph 0036-0038).

Regarding claim 4, Kaniyar and Jalali further teach the method of claim 1 wherein said scheduling metric is a function of at least one of: the inter-scheduling delay in serving a queue in said network (see Kaniyar, fig.2 and 4, paragraph 0046-0048); and the second moment of said inter-scheduling delay (see Kaniyar, fig.2 and 4, paragraph 0046-0048).

Regarding claim 5, Kaniyar and Jalali further teach the method of claim 4 wherein said scheduling metric is a function of at least one of: the size of a queue in said network (see Kaniyar, fig.2 and 4, paragraph 0046-0048); a desired transmission rate related to a user in said network (see Jalali, page 1856, section 3, forward link schedulers); and a data throughput at a network protocol layer in said network (see Jalali, page 1856, section 3, forward link schedulers).

Regarding claim 6, Kaniyar and Jalali further teach the method of claim 1 wherein said scheduling metric is a function of the system time of a packet (see Jalali, page 1854, section 1, introduction, and page 1856, section 3, forward link schedulers).

Regarding claim 7, Kaniyar and Jalali further teach the method of claim 1 wherein said scheduling metric is a function of the size of a queue (see Kaniyar, fig.2 and 4, paragraph 0046-0048) in said network multiplied by a desired transmission rate related to a user in said network divided by a data throughput at a network protocol layer in said network (see Jalali, page 1854, section 1, introduction, and page 1856, section 3, forward link schedulers).

Regarding claim 9 is rejected with the same reasons set forth in claim 7.

Regarding claim 12, Jalali teaches apparatus for use in scheduling data transmissions in a wireless communication system between a base station (AP (access point) and a plurality of mobile terminals (ATs (access terminals))(abstract), said apparatus comprising:

a first circuit (included on AP (access point)) for calculating the value of a scheduling metric for each mobile terminal (AT (access terminal)) in said plurality of mobile terminals (ATs (access terminals)) (abstract, page 1856, section 3, forward link schedulers); and

a second circuit (included on AP (access point)) for scheduling transmissions between said base station (AP (access point) and said mobile terminals (ATs (access terminals)) as a function of said calculated values of a scheduling metric (abstract, page 1856, section 3, forward link schedulers).

Jalali fails to specifically disclose wherein said scheduling metric is representative of a transmission control protocol (TCP) throughput for each of said mobile terminals. However, Kaniyar teaches wherein said scheduling metric is representative of a transmission control protocol (TCP) throughput for each of said mobile terminals (fig.2, clients 210, paragraph 0036-0038). Therefore, it would have been obvious to one having ordinary skill in the art at the time invention was made to apply the teaching of Kaniyar to Jalali to provide a method for handling action scheduling timers used for management of network communications connections:

Regarding claim 13, Kaniyar and Jalali further teach the apparatus of claim 12 wherein said first circuit and said second circuit comprise the same circuit (see Jalali, first circuit and second circuit included on base station, see Kaniyar, fig.2, server 200).

Regarding claim 14 is rejected with the same reasons set forth in claim 2.

Regarding claim 15, Kaniyar and Jalali further the apparatus of claim 14 wherein said first circuit, said second circuit and said third circuit comprise the same circuit (see Jalali, first circuit, second circuit and third circuit included on base station, see Kaniyar, fig.2, server 200)..

Regarding claim 16 is rejected with the same reasons set forth in claim 3.

Regarding claim 17 is rejected with the same reasons set forth in claim 4.

Regarding claim 18 is rejected with the same reasons set forth in claim 5.

Regarding claim 19 is rejected with the same reasons set forth in claim 6.

Regarding claim 20 is rejected with the same reasons set forth in claim 7.

Regarding claim 22 is rejected with the same reasons set forth in claim 7.

Regarding claim 25, Jalali teaches a scheduler for use in scheduling future data transmissions from a base station (AP (access point) to a plurality of mobile terminals in a wireless communications system (ATs (access terminals))(abstract), said scheduler comprising:

means for calculating the value of a scheduling metric for each mobile terminal (AT (access terminal)) in said plurality of mobile terminals (ATs (access terminals)) (abstract, page 1856, section 3, forward link schedulers); and

means for scheduling transmissions between said base station (AP (access point) and said mobile terminals (ATs (access terminals)) as a function of said



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calculated values of a scheduling metric (abstract, page 1856, section 3, forward link schedulers).

Jalali fails to specifically disclose wherein said scheduling metric is representative of a transmission control protocol (TCP) throughput for each of said mobile terminals. However, Kaniyar teaches wherein said scheduling metric is representative of a transmission control protocol (TCP) throughput for each of said mobile terminals (fig.2, clients 210, paragraph 0036-0038). Therefore, it would have been obvious to one having ordinary skill in the art at the time invention was made to apply the teaching of Kaniyar to Jalali to provide a method for handling action scheduling timers used for management of network communications connections.

Regarding claim 26 is rejected with the same reasons set forth in claim 2.

Regarding claim 27 is rejected with the same reasons set forth in claim 3.

Regarding claim 28 is rejected with the same reasons set forth in claim 4.

Regarding claim 29 is rejected with the same reasons set forth in claim 5.

Regarding claim 30 is rejected with the same reasons set forth in claim 6.

Regarding claim 31 is rejected with the same reasons set forth in claim 7.

Regarding claim 33 is rejected with the same reasons set forth in claim 7.



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**Conclusion**

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571.272.7923. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph feild can be reached on 571.272.4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Khai Nguyen  
Au: 2617

JEAN GELIN  
PRIMARY EXAMINER



12/31/2006